

## Quarterly Report March 2020 – NEWA

The year began with a number of stations not reporting data in both the Lake Erie region and the Finger Lakes region. After speaking with the owners of the stations and technical support from Rainwise it was determined that there were a couple of reasons for the outages. Rainwise itself had experienced some system wide outages that were noticed, but generally the data was backfilled once the servers came back online. In addition some of our more remote stations, specifically Portland Escarpment and Silver Creek, experienced some internet connectivity problems. While troubleshooting it was noticed that a number of our area stations are getting to a point that Rainwise recommends replacing the station versus making temporary fixes. I have been getting some pushback as far as replacing stations, so we are trying to get the stations reporting as best we can.


New batteries were purchased and replaced in the Portland Escarpment, East Fredonia and Silver Creek stations. Since then the East Fredonia and Silver Creek stations have improved operations. The Portland Escarpment station is still not giving consistent data, and conversations are ongoing regarding moving the IP-100 to aid in the data collection. The owner has indicated it is not likely they will be able to pay full price for a replacement at this time and would need assistance to stay in the network.




Figure 1 HOBOT Station at CLEREL


The LERGP purchased a HOBOT station from Onset Computer Corporation in February and it is now installed and receiving data. This data is linked to the NEWA network as Portland(LERGP West). The rationale behind installing this additional weather station is to become familiar with both systems and be able to assist local station owners with questions on either one.

In February, Kim began assisting Dan Olmstead with the NEWA help desk. This frees up some of Dan's time to address the more difficult NEWA related questions and situations, while ensuring that the day to day questions to the help desk get answered.


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New York State Integrated Pest Management Program


Network for Environment and Weather Applications

**Website Status:**  
 No problems reported. 6/13/20 6AM EST  
 7/7/2020 10:07:21 PM

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Portland (LERGP West)

Portland (LERGP West) - Hourly Data Summary

| Date/Time            | Air Temp (°F) | Precip (inches) | Leaf Wetness (minutes) | RH (%) | Wind Spd (mph) | Wind Dir (degrees) | Solar Rad (langleys) | Soil Temp (°F) | Soil Moisture (m3/m3) | Dewpoint (°F) |
|----------------------|---------------|-----------------|------------------------|--------|----------------|--------------------|----------------------|----------------|-----------------------|---------------|
| 07/07/2020 21:00 EDT | 79.2          | 0.00            | 0                      | 82     | 2.2            | 205                | 4                    | 84.4           | 0.09                  | 73            |
| 07/07/2020 20:00 EDT | 84.2          | 0.00            | 0                      | 72     | 1.6            | 272                | 19                   | 85.6           | 0.09                  | 74            |
| 07/07/2020 19:00 EDT | 83.7          | 0.00            | 0                      | 67     | 3.8            | 305                | 23                   | 86.9           | 0.09                  | 72            |
| 07/07/2020 18:00 EDT | 86.0          | 0.00            | 0                      | 60     | 5.1            | 265                | 31                   | 88.2           | 0.10                  | 70            |
| 07/07/2020 17:00 EDT | 87.1          | 0.00            | 0                      | 56     | 6.0            | 298                | 57                   | 88.5           | 0.10                  | 69            |
| 07/07/2020 16:00 EDT | 89.1          | 0.00            | 0                      | 52     | 6.0            | 274                | 69                   | 87.6           | 0.10                  | 69            |
| 07/07/2020 15:00 EDT | 88.9          | 0.00            | 0                      | 47     | 8.3            | 299                | 76                   | 85.6           | 0.10                  | 66            |
| 07/07/2020 14:00 EDT | 89.4          | 0.00            | 0                      | 41     | 4.5            | 317                | 78                   | 82.8           | 0.10                  | 63            |
| 07/07/2020 13:00 EDT | 88.9          | 0.00            | 0                      | 43     | 3.8            | 314                | 55                   | 80.4           | 0.10                  | 63            |
| 07/07/2020 12:00 EDT | 85.3          | 0.00            | 0                      | 46     | 5.1            | 329                | 62                   | 78.4           | 0.10                  | 62            |
| 07/07/2020 11:00 EDT | 88.2          | 0.00            | 0                      | 44     | 4.5            | 253                | 63                   | 76.5           | 0.10                  | 63            |
| 07/07/2020 10:00 EDT | 84.9          | 0.00            | 0                      | 51     | 4.5            | 222                | 47                   | 75.6           | 0.10                  | 65            |
| 07/07/2020 09:00 EDT | 82.0          | 0.00            | 0                      | 60     | 4.5            | 195                | 33                   | 74.8           | 0.10                  | 67            |

## NEWA June 2020

Emails and phone calls were made for a number of routine connection issues across the Lake Erie Region and the Finger Lakes Region.

With our aging network of Rainwise stations in the Lake Erie Region, we have been experiencing occasional sensor issues. Both Silver Creek and Sheridan stations were reporting as wet from the leaf wetness sensors for a

long period of time. Rainwise support advised against purchasing the sensors (at a cost of \$255 each), but instead urged the replacement of the stations. These Rainwise stations are recommended to be replaced every 5 years to ensure the collection of accurate data. For now the leaf wetness sensor on the Sheridan station was replaced with a spare, and the sensor was removed from the Silver Creek station. There is a calculation that can be performed on the NEWA website for leaf wetness allowing the station visitors to still access that information.

The Relative Humidity and Temperature sensor was replaced in both the North East Escarpment and North East Lab stations.

East Fredonia, East Westfield, Lake City and Ovid stations also experienced some connection problems this quarter. East Fredonia and Lake City were both fixed by following cords and making sure it was plugged in properly. East Westfield is a cellular station that required that the TeleMet to be sent in. No word yet on that station. Ovid is back online.

Silver Creek station needed to have the rain bucket cleaned and is now recording precipitation.

Soil temperature and moisture sensors were added to the Onset station at CLEREL. These can be seen on the NEWA website at the Portland (LERGP West) station.

Quotes were obtained from both Onset and Rainwise regarding replacing some of the older stations in our network. There are pros and cons to both, but for now while money is tight there will be no new stations.

## NEWA September 2020

The stations in the Lake Erie and Finger Lakes Regions had a number of the usual connection issues that are generally cleared up with an email or phone call.

There were no major issues in this quarter.

One thing that was noticed is that the Rainwise and Onset stations are recording data with some variance that results in a differing accumulation of growing degree days. These numbers are also slightly different than those collected by the Mesonet stations. Suggestions for the reason behind this might include that the stations are calibrated differently between the three sources. Also, the timing of the collection, height at which the temperatures are recorded, and the ground cover present would all contribute to varying results. These data are used in disease models presented on the NEWA website. Growers are encouraged to consult their local stations to best assess the pest and disease exposure and the need to spray for those pests. Spray recommendations can be made around what has worked better historically in that area. If control has not been maintained, perhaps using data from a different sensor would help.



Figure 2 Onset HOB0 weather station



Figure 3 Rainwise weather station

NEWA December 2020



Four site visits were made during this quarter. Two were to clean the rain collection buckets on two different stations. The other two were made to the same station in succession. The first was to change the battery, and the second was to check on the solar panel to ensure that it was charging the battery.

Most problems were able to be solved through email communication. Two stations in the Finger Lakes region had problems with low batteries. The station owners were able to replace the batteries and restore service.

The East Westfield TeleMet station is still out of service. It is expected to be returned from Rainwise at some time and be restored to service.

Plans are being made to do some ground truthing of pest models in the coming year to ensure accurate recommendations for pest management continue to be made.



#### NEWA Annual Report 2020

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weather station is to become familiar with both systems and be able to assist local station owners with questions on either one. Soil temperature and moisture sensors were added to the Onset station at CLEREL in the second quarter. These can be seen on the NEWA website at the Portland (LERGP West) station. Quotes were obtained from both Onset and Rainwise regarding replacing some of the older stations in our network. There are pros and cons to both, but for this year while money is tight there were no new stations. In February, Kim began assisting Dan Olmstead with the NEWA help desk. This frees up some of Dan's time to address the more difficult NEWA related questions and situations, while ensuring that the day to day questions to the help desk get answered.

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